



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,487	03/24/2006	Koji Sahashi	1761.1088	9277
21171 7590 10/06/2008 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER SCHINDLER, DAVID M	
			ART UNIT 2862	PAPER NUMBER
			MAIL DATE 10/06/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,487

Applicant(s)

SAHASHI ET AL.

Examiner

DAVID M. SCHINDLER

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- _____ Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- _____ Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the communication filed 6/6/2008.

Specification

2. The amendment filed 6/6/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

3. 1) The submitted specification amendment and corresponding replacement Figure 1 introduces new matter. Applicant has added an additional sensor section (26) to Figure 1. However, the Examiner notes that the original disclosure states 1) "replacement of the sensor unit 9 with a different sensor unit can be easily performed so that a different target of detection can be detected. By way of example, where different targets of detection are desired to be detected with testing equipments, a plurality of sensors each for detecting a particular target of detection are prepared and replaced in turn to obtain a wide variety of detection results (see the last paragraph on page 12 and lines 1-2 on page 13 of applicant's specification), 2) that sensor section 26 of the sensor unit 9 may include, in addition

to magnetic sensor 9A, a sensor for detecting a target of detection other than the number of revolutions such as temperature, vibration, acceleration, preload on the bearing, load or torque (see the last four lines on page 11 of applicant's specification), and 3) that a plurality of sensors of the same type can be mounted to the bearing (see lines 1-6 on page 16 of applicant's specification).

4. Applicant has added a second sensor section (26) to Figure 1, and has additionally claimed that the sensor unit which is of one-piece construction includes a plurality of sensor sections to magnetically detect the target of detection. Nowhere in the above relevant sections, or elsewhere in the original disclosure, does there appear to be support for at least two magnetic sensors for detecting the target of detection, and being located in a one-piece construction sensor unit.

5. Therefore, the replacement Figure 1 and the specification amendments are objected to for introducing new matter.

6. Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

7. Applicant's arguments filed 6/6/2008 have been fully considered but they are not persuasive.

8. Alff (U.S. 5,451,869) discloses the feature of the sensor unit mounting device is made of a non-magnetic material and covers an end opening of the stationary outer race, and the sensor unit is arranged in face to face relation with the target with the sensor with the sensor unit mounting device interposed therebetween.

9. First, Alff discloses that the bearing 10 is intended to be used as a bearing in conventional assemblies, such as that described in EP-A 453,331 (see lines 12-14 in column 2). It is noted that US 5,143,458 corresponds to this EP reference and will be used in the explanation. In this reference, it is disclosed that the encoding element is a magnetic ring, and that sensor is magnetic (see lines 55-66 in column 2). The mounting device cannot be made out of a magnetic material as it is known that this would influence the magnetic field generated by the encoder. The mounting device must be non-magnetic, and at the very least, a person of ordinary skill in the art would know to make the mounting device non-magnetic to prevent interference. While applicant appears to argue this at the bottom of page two of the remarks, the Examiner nevertheless notes that it is common knowledge that a magnetic material will influence a magnetic field, and as the purpose of the sensor is to detect the signal generated by the encoder, a person of ordinary skill

would know that a non-magnetic metal (such as aluminum) must be used for the mounting device to prevent the mounting device from influencing the field that that is desired to be detected.

10. Figure 5 shows that the mounting device covers an end opening of the stationary outer race. Figure 5 also shows that the sensor unit is arranged in a face to face relationship with the target (12) with the mounting device interposed therebetween.

11. With regard to paragraphs 5-7 on page 2 of the remarks, the Examiner notes MPEP 2145 which states in part:

12. "I. ARGUMENT DOES NOT REPLACE EVIDENCE WHERE EVIDENCE IS
13. NECESSARY

14. Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). See MPEP § 716.01(c) for examples of attorney statements which are not

evidence and which must be supported by an appropriate affidavit or declaration."

15. The Examiner additionally notes MPEP 716.01(c) which states in part ">II. < ATTORNEY ARGUMENTS CANNOT TAKE THE PLACE OF EVIDENCE

16. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). Examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration include statements regarding unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant."

17. Therefore, the Examiner respectfully disagrees with applicant.

Claim Rejections - 35 USC § 112

18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

19. Claims 1, 4, and 6-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

20. As to Claim 1,

21. The newly added feature of "wherein the sensor unit is of one-piece construction and includes a plurality of sensor sections to magnetically detect the target of detection" on lines 8-9 appears to introduce new matter. See paragraphs 3 and 4 of this office action for an explanation.

22. As to Claims 4 and 6-9,

23. These claims stand rejected for incorporating the above above rejected subject matter of claim 1.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

26. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

27. Claims 1, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alff (US 5,451,869) in view of Morita et al. (Morita) (US 20030093188).

28. As to Claim 1,

29. Alff discloses a bearing (Figure 5) including an outer stationary race member (2) and a rotatable race member (1), a magnetic target of detection (12), a sensor unit mounting device (Figure 11) to removably mount the sensor unit (10) on the stationary race member of the bearing (Figures 5 and 11), wherein the sensor unit is of one-piece construction (Figure 5), the sensor unit mounting device includes a fixing ring (20) mounted on the stationary race member (Figure 5), a socket portion (41) provided in the fixing ring to allow the sensor unit to be removably inserted in a radial direction of the bearing (Figures 5 and 11), and a retaining portion ((42) and (43)) provided on the fixing ring or the socket portion to elastically retain the sensor unit inserted into the socket portion ((Figures 5 and 11) and (Column 3, Lines 4-34)), the sensor unit mounting device is made of a non-magnetic material (see above arguments) and covers an end opening of the station outer race (Figure 5), and the sensor unit is arranged in face-to-face relation with the target with the sensor unit mounting device interposed therebetween.

30. Alff does not disclose the sensor unit includes a plurality of sensor sections to magnetically detect the target of detection, a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections, a single transmitting antenna, the sensor unit includes as an electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly.

31. Morita discloses the sensor unit includes a plurality of sensor sections to magnetically detect the target of detection (Page 13, Paragraph [0161]), a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections (Figures 9 and 17) a single transmitting antenna (49), the sensor unit includes as an electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly (Page 8, Paragraph [0106]).

32. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the sensor unit includes a plurality of sensor sections to detect a target of detection, a single transmitting circuit to transmit wirelessly sensor signals outputted from the sensor sections, a single transmitting antenna, the sensor unit includes as an

electric power supply section to drive the sensor section and the signal transmitting circuit, an electric power receiving section to receive an electric power wirelessly as taught by Morita in order to reduce the weight and cost of the bearing unit (Page 8, Paragraph [0107]).

33. As to Claim 4,

34. Alff discloses the sensor section includes revolution sensor ((12) in combination with (11)), the revolution sensor including an encoding element (12), the encoding element fitted in a face-to-face relation with the sensor (11), the encoding element is fitted to rotatable race member (Column 2, Lines 15-26).

35. Alff does not disclose the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring, the sensor unit includes the magnetic sensor while the pulsar ring is fitted to the rotatable race member.

36. Morita discloses the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring (Page 6, Paragraph [0094]) the sensor unit includes the magnetic

sensor while the pulsar ring is fitted to the rotatable race member (Figure 9).

37. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the revolution sensor including a pulsar ring for generating a cyclic magnetic change in a circumferential direction of the pulsar ring and a magnetic sensor fitted in a face-to-face relation with the pulsar ring, the sensor unit includes the magnetic sensor while the pulsar ring is fitted to the rotatable race member as taught by Morita in order be able to simultaneously provide for both rotation detection and wireless power generation (note Page 8, Paragraph [0106]).

38. As to Claim 6,

39. Alff discloses the bearing is a rolling bearing including a plurality of rows of rolling elements interposed between the stationary and rotatable race members (Figure 5).

40. As to Claim 7,

41. Alff discloses a plurality of rows of rolling elements interposed between the mutually confronting raceway surfaces in the outer and inner members (Figure 5).

42. Alf does not disclose the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support

bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member.

43. Morita discloses the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member ((Figure 9) and (Pages 9-10, Paragraph [0119]) and Abstract)).

44. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff to include the rolling bearing is a wheel support bearing assembly used for rotatably supporting a vehicle wheel relative to a vehicle body structure, the wheel support bearing assembly including an outer member having a plurality of raceway surfaces and defining the station race member, an inner member having raceway surfaces confronting with the raceway surface in the outer member and defining the rotatable race member as taught by Morita in order

to provide a device for detecting the rpm of wheels of an automobile (Page 1, Paragraph [0002]).

45. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alff (US 5,451,869) in view of Morita et al. (Morita) (US 20030093188) as applied to claim 1 and in further view of Hori (US 5,990,676).

46. As to Claim 8,

47. Alff in view of Morita does not disclose respective sensor signals from the sensor sections are transmitted as superimposed.

48. Hori discloses respective sensor signals from the sensor sections are transmitted as superimposed (frequency division) (Column 1, Lines 40-56).

49. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff in view of Morita to include respective sensor signals from the sensor sections are transmitted as superimposed as taught by Hori in order to advantageously utilize a readily available mobile communication technique.

50. As to Claim 9,

51. Alff in view of Morita does not disclose respective sensor signals from the sensor sections are transmitted on a time division basis.

52. Hori discloses respective sensor signals from the sensor sections are transmitted on a time division basis (Column 1, Lines 40-56).

53. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Alff in view of Morita to include respective sensor signals from the sensor sections are transmitted on a time division basis as taught by Hori in order to advantageously utilize a readily available mobile communication technique.

Conclusion

54. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

55. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated

from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

56. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID M. SCHINDLER whose telephone number is (571)272-2112. The examiner can normally be reached on Monday-Friday (8:00AM-5:00PM).

57. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

58. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David M. Schindler
Examiner
Art Unit 2862

DMS

/Patrick J Assouad/
Supervisory Patent Examiner, Art Unit 2862